UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,497	05/23/2006	Josi Rosenfeld	GB 030214	2311

24737 7590 11/10/2009
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER	
HSIEH, PING Y	

ART UNIT	PAPER NUMBER
2618	

MAIL DATE	DELIVERY MODE
11/10/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/580,497
Filing Date: May 23, 2006
Appellant(s): ROSENFELD, JOSI

____
Thomas E. Knocovsky, Jr.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 7/27/2009 appealing from the Office action mailed 3/4/2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

7,069,025	Goren et al.	6-2006
7,006,838	Diener et al.	2-2006
6,052,561	Rudowicz et al.	4-2000

5,742,635 Sanderford, Jr. 4-1998

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 7-10, 13, 14, 16, 17, 20-22 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Goren et al. (U.S. PATENT NO. 7,069,025).

-Regarding claims 1, 16 and 17, Goren et al. disclose a positioning method for a radio system **(as disclosed in fig. 15 and 16)**, the method comprising: receiving signals at a unit of the system **(receive data signal as disclosed in step 1510, fig. 15 and further disclosed in col. 22 lines 9 – 11)**; applying at least one test on the received signals prior to processing the signals **(determining if the correlation function quality is sufficient in step 1575, fig. 15; and further determining if the peak 1502 is able to be distinguished from peak 1504 or overlap or merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 43-59)**; in accordance with the applied test,

selecting one of a correlation processing operation and a leading edge processing operation **(use channel estimation operation 1590 if the peak 1502 can be distinguished from peak 1504 as disclosed in fig. 15A and col. 22 lines 49-56; or in some cases, use leading edge operation 1585 if the peak 1502 is overlap or merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 56-59)**; and performing the selected one of the correlation processing operation and the leading edge processing operation **(as disclosed in col. 22 lines 43-59)**.

-Regarding claim 2, Goren et al. further disclose the test applied comprises determining whether a signal level of the received signal is above a threshold value **(determining if the correlation function quality is sufficient in step 1575, fig. 15; and further determining if the peak 1502 is able to be distinguished from peak 1504 or overlap or merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 43-59)**.

-Regarding claim 3, Goren et al. further disclose in response to the level of the received signal being below the threshold value, selecting the correlation processing operation **(use channel estimation operation 1590 if the peak 1502 can be distinguished from peak 1504 as disclosed in fig. 15A and col. 22 lines 49-56)**.

-Regarding claims 7 and 26, Goren et al. further disclose repeating the test application and operation steps at predetermined intervals **(repeat the test**

application and operation steps at the intervals of receiving data signals as disclosed in Fig. 6 and Fig. 15).

-Regarding claim 8, Goren et al. further disclose coherently superposing received pulses before the test application step **(evaluate correlation function 1570 as disclosed in Fig. 15)**.

-Regarding claim 9, Goren et al. further disclose convoluting of a pulse with a bump function **(leading edge detection 1585, Fig. 15)**.

-Regarding claim 10, Goren et al. further disclose in response to a signal level being below the signal level threshold, extending the receiving time period for the signal before the next/successive test application(s) **(when the correlation function quality is not sufficient, evaluate correlation function and test correlation function quality sufficiency again as disclosed in Fig. 15)**.

-Regarding claim 13, Goren et al. further disclose effecting the leading edge processing operation after selection with no intermediate testing or processing **(use leading edge operation 1585 if the peak 1502 is overlap or merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 56-59)**.

-Regarding claim 20, Goren et al. disclose a positioning apparatus for a radio system **(as disclosed in Fig. 15 and 16 and further disclosed in col. 22 lines 1 – 5)**, the apparatus comprising: a receiver which receives radio frequency signals which have potentially suffered at least one of noise degradation and

multipath degradation in a propagation environment **(receiver 110, Fig. 1; receive data signal as disclosed in step 1510, Fig. 15 and further disclosed in col. 22 lines 9 – 11)**; testing means for testing the received radio frequency signals, which have not been subject to a correlation processing operation, for at least noise degradation and multi-path degradation **(determining if the correlation function quality is sufficient in step 1575, fig. 15; and further determining if the peak 1502 is able to be distinguished from peak 1504 or overlap or merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 43-59)** and selecting one of; a correlation processing operation and a leading edge processing operation based on the testing **(use channel estimation operation 1590 if the peak 1502 can be distinguished from peak 1504 as disclosed in fig. 15A and col. 22 lines 49-56; or in some cases, use leading edge operation 1585 if the peak 1502 is overlap or merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 56-59)**; and a processor which subsequently processes the tested radio frequency signals with the selected one of the correlation based processing operation and the leading edge processing operation **(as disclosed in col. 22 lines 43-59)**.

-Regarding claim 21, Goren et al. further disclose the testing means includes means to determine whether a signal level of the received radio frequency signal is above a threshold value **(determining if the correlation function quality is sufficient in step 1575, fig. 15; and further determining if the peak 1502 is able to be distinguished from peak 1504 or overlap or**

merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 43-59).

-Regarding claim 22, Goren et al. further disclose the testing means includes means which selects the correlation processing operation if the level of the received signal is below the threshold value **(use channel estimation operation 1590 if the peak 1502 can be distinguished from peak 1504 as disclosed in fig. 15A and col. 22 lines 49-56)**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 4-6, 23, 24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goren et al. (U.S. PATENT NO. 7,069,025) Diener et al. (U.S. PATENT NO. 7,006,838).

-Regarding claims 4 and 23, Goren et al. teach all the limitation as claimed in claims 1 and 2. Goren et al. further disclose determining if the peak 1502 is able to be distinguished from peak 1504 or overlap or merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 43-59. However, the combination fails to disclose a leading edge gradient/gradient threshold.

Diener et al. disclose a signal detector 520 and a pulse detector coupled to the peak detector that detects from the peak information pulses that meet the configured criteria as disclosed in col. 8 lines 41 - 46.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the method as disclosed by Goren et al. to include the step of detecting the peak information pulses that meet the configured criteria as disclosed by Diener et al. One is motivated as such in order to provide accuracy for identifying location using leading edge operation.

-Regarding claim 5, Goren et al. disclose a positioning method for a radio system **(as disclosed in Fig. 15 and 16)**, the method comprising: receiving signals at a unit of the system **(receive data signal as disclosed in step 1510, Fig. 15 and further disclosed in col. 22 lines 9 – 11)**, applying at least one test on the received signals to select a processing operation on the signals **(determining if the correlation function quality is sufficient in step 1575, fig.**

15; and further determining if the peak 1502 is able to be distinguished from peak 1504 or overlap or merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 43-59), the operation being one of the following: a correlation processing operation and a leading edge processing operation **(use channel estimation operation 1590 if the peak 1502 can be distinguished from peak 1504 as disclosed in fig. 15A and col. 22 lines 49-56; or in some cases, use leading edge operation 1585 if the peak 1502 is overlap or merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 56-59)**; wherein the applied test comprises: determining whether a signal level of the received signal is above a threshold value **(determining if the correlation function quality is sufficient in step 1575, fig. 15)**; when the level of the received signal is below the threshold value, selecting the correlation processing operation **(use channel estimation operation 1590 if the peak 1502 can be distinguished from peak 1504 as disclosed in fig. 15A and col. 22 lines 49-56)** selecting the leading edge processing operation **(use leading edge operation 1585 if the peak 1502 is overlap or merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 56-59)**; and effecting the selected operation **(as disclosed in col. 22 lines 43-59)**. However, Goren et al. fail to specifically disclose a leading edge gradient/gradient threshold.

Diener et al. disclose a signal detector 520 and a pulse detector coupled to the peak detector that detects from the peak information pulses that meet the configured criteria as disclosed in col. 8 lines 41 - 46.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the method as disclosed by Goren et al. to include the step of detecting the peak information pulses that meet the configured criteria as disclosed by Diener et al. One is motivated as such in order to provide accuracy for identifying location using leading edge operation.

-Regarding claim 6, the combination further discloses if the leading edge gradient is above the gradient threshold value, the correlation processing operation is selected **(Diener et al., knowing the type of the signal to be located after detecting from the peak information pulses that meet the configured criteria, can be useful in deciding on what type of signaling process to use in order to obtain TDOA measurements to locate the source of the signal as disclosed in col. 8 lines 41 - 55; and Goren et al., correlation function quality sufficient step 1575 as disclosed in Fig. 15)**.

-Regarding claim 24, the combination further discloses the testing means includes means which selects: the leading edge processing operation in response to the leading edge gradient being below the gradient threshold value **(Diener et al., knowing the type of the signal to be located after detecting from the peak information pulses that meet the configured criteria, can be useful in deciding on what type of signaling process to use in order to obtain TDOA measurements to locate the source of the signal as disclosed in col. 8 lines 41 - 55; and Goren et al., estimate TOA step 1580 as disclosed in Fig. 15)**, and the correlation processing operation in response to the leading

edge gradient being above the gradient threshold value **(Diener et al., knowing the type of the signal to be located after detecting from the peak information pulses that meet the configured criteria, can be useful in deciding on what type of signaling process to use in order to obtain TDOA measurements to locate the source of the signal as disclosed in col. 8 lines 41 - 55; and Goren et al., correlation function quality sufficient step 1575 as disclosed in Fig. 15)**.

-Regarding claim 27, Goren et al. disclose a positioning method for a radio system **(as disclosed in fig. 15 and 16)**, the method comprising: receiving signals at a unit of the system **(receive data signal as disclosed in step 1510, fig. 15 and further disclosed in col. 22 lines 9 – 11)**; applying at least one test on the received signals prior to processing the signals **(determining if the correlation function quality is sufficient in step 1575, fig. 15; and further determining if the peak 1502 is able to be distinguished from peak 1504 or overlap or merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 43-59)** to select between a correlation processing operation and a leading edge processing operation **(use channel estimation operation 1590 if the peak 1502 can be distinguished from peak 1504 as disclosed in fig. 15A and col. 22 lines 49-56; or in some cases, use leading edge operation 1585 if the peak 1502 is overlap or merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 56-59)**, the test including determining whether a signal level of the received signal is above a threshold value **(determining if the**

correlation function quality is sufficient in step 1575, fig. 15; and further determining if the peak 1502 is able to be distinguished from peak 1504 or overlap or merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 43-59); in response to the level of the received signal being below the threshold value, selecting the correlation processing operation **(use channel estimation operation 1590 if the peak 1502 can be distinguished from peak 1504 as disclosed in fig. 15A and col. 22 lines 49-56)**; when the level of the received signal is above the received signal is above the threshold value, testing whether a leading edge gradient is above a gradient threshold value **(determining if the correlation function quality is sufficient in step 1575, fig. 15; and further determining if the peak 1502 is able to be distinguished from peak 1504 or overlap or merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 43-59)**; in response to the leading edge gradient value being below the gradient threshold value, selecting the leading edge processing operation **(use leading edge operation 1585 if the peak 1502 is overlap or merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 56-59)**; and in response to the leading edge being above the gradient threshold value, selecting the correlation processing operation **(use channel estimation operation 1590 if the peak 1502 can be distinguished from peak 1504 as disclosed in fig. 15A and col. 22 lines 49-56)**. However, Goren et al. fail to specifically disclose a leading edge gradient/gradient threshold.

Diener et al. disclose a signal detector 520 and a pulse detector coupled to the peak detector that detects from the peak information pulses that meet the configured criteria as disclosed in col. 8 lines 41 - 46.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the method as disclosed by Goren et al. to include the step of detecting the peak information pulses that meet the configured criteria as disclosed by Diener et al. One is motivated as such in order to provide accuracy for identifying location using leading edge operation.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goren et al. (U.S. PATENT NO. 7,069,025) in view of Rudowicz et al. (U.S. PATENT NO. 6,052,561).

-Regarding claims 11 and 12, Goren et al. disclose all the limitations as claimed in claim 1. However, Goren et al. fail to specifically disclose before testing whether the leading edge gradient is above a threshold value, reducing the next transmit period and reducing the time period for the leading edge test for operation in a power-saving mode.

Rudowicz et al. disclose before testing whether the leading edge gradient is above a threshold value, reducing the next transmit period and reducing the time period for the leading edge test for operation in a power-saving mode **(see col. 9 line 59-col. 10 line 18)**.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the position method of Goren et al. to include the features as disclosed by Rudowicz et al. One is motivated as such in order to reduce power consumption.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goren et al. (U.S. PATENT NO. 7,069,025).

-Regarding claim 14, Goren et al. disclose a positioning method for a radio system **(as disclosed in fig. 15 and 16)**, the method comprising: receiving signals at a unit of the system **(receive data signal as disclosed in step 1510, fig. 15 and further disclosed in col. 22 lines 9 – 11)**; applying at least one test on the received signals prior to processing the signals to select a processing operation on the signals **(determining if the correlation function quality is sufficient in step 1575, fig. 15; and further determining if the peak 1502 is able to be distinguished from peak 1504 or overlap or merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 43-59)**, the operation being one of the following: a correlation processing operation, and a leading edge processing operation **(use channel estimation operation 1590 if the peak 1502 can be distinguished from peak 1504 as disclosed in fig. 15A and col. 22 lines 49-56; or in some cases, use leading edge operation 1585 if the peak 1502 is overlap or merge with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 56-59)**; then effecting the selected operation **(as**

disclosed in col. 22 lines 43-59). Although Goren et al. does not specifically disclose measuring a gradient using the formula:

$$i = \frac{Cdv}{Dt},$$

the examiner takes official notice that the formula was well known in the art and would have been obvious to one of ordinary skills in the art at the time of the invention to use it for measuring gradient.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goren et al. (U.S. PATENT NO. 7,069,025) in view of Sanderford, Jr. (U.S. PATENT NO. 5,742,635).

-Regarding claim 15, Goren et al. disclose all the limitations as claimed in claim 1. However, Goren et al. fail to specifically disclose the leading edge processing operation comprises differentiating the received signal voltage or peak and locating the zero-crossing.

Sanderford, Jr. discloses the leading edge processing operation comprises differentiating the received signal voltage or peak and locating the zero-crossing **(as disclosed in col. 2 lines 17-42)**.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the method of Goren et al. to include the process as disclosed by Sanderford, Jr. One is motivated as such in order to improve the accuracy of a time-of-flight time stamp.

(10) Response to Argument

A. Regarding of Claim 2.

Appellant argues that claim 2 calls for applying a test on received signals to determine whether a signal level of the received signal is above a threshold; and Goren calls for applying a test to determine whether the line of sight peak 1502 is separated from the multipath peak 1504 rather than detecting whether signal level is above a threshold value.

The Examiner submits that the Goren discloses applying a test on received signals to determine whether a signal level of the received signal is above a threshold **(Goren determining if the correlation function quality is sufficient in step 1575, fig. 15)**.

Appellant further argues that because claim 2 calls for selecting between correlation processing and leading edge processing, whereas Goren selects between performing leading edge processing on the line of flight peak 1502 or the merged peak.

The Examiner submits that Goren discloses selecting between correlation processing and leading edge processing **(selecting between correlation processing (i.e. channel estimation using correlation signal $C(\tau)$) 1590 and leading edge detection 1585 in fig. 15, 15A and col. 22 lines 43-59)**.

B. Regarding of Claim 3.

Appellant argues that claim 3 calls for the correlation processing operation to be performed in response to the received signal being below the threshold value, but Goren performs leading edge detection 1585 in response to the separation between the line of sight and the multipath peaks being blow a minimum separation.

The Examiner submits that Goren discloses the correlation processing operation to be performed in response to the received signal being below the threshold value **(use correlation processing (i.e. channel estimation using correlation signal $C(\tau)$) 1590 if the peak 1502 can be distinguished from peak 1504 as disclosed in fig. 15A and col. 22 lines 49-56)**.

C. Regarding of Claim 4.

Appellant argues that neither Diener nor Goren suggest a second test, much less a leading edge gradient second test.

The Examiner submits that Goren discloses a first test of whether the correlation function quality is sufficient in step 1575, fig. 15, and further discloses a second test of determining whether the peak 1502 is able to be distinguished from peak 1504 or overlap with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 43-59. Diener discloses a detector 520 and a pulse detector coupled to the peak detector that detects from the peak information pulses **(i.e., gradient)** that meet the configured criteria **(i.e. gradient threshold)** in col. 8 lines 41-46. Therefore, by modify the method of Goren to include the step of detecting the

peak information pulses that meet the configured criteria, it would provide accuracy for identifying location using leading edge operation.

D. Regarding of Claim 6.

Appellant argues that neither Goren nor Diener suggest selecting a correlation processing operation in response to a leading edge gradient being too steep or indeed based on any other characteristic of a leading edge gradient.

The Examiner submits that Diener discloses knowing the type of the signal to be located after detecting from the peak information pulses that meet the configured criteria, can be useful in deciding on what type of signaling process to use in order to obtain TDOA measurements to locate the source of the signal in col. 8 lines 41-55; therefore, the information is useful in deciding whether to use correlation processing (i.e. channel estimation using correlation signal $C(\tau)$) 1590 or leading edge detection 1585 as disclosed by Goren in fig. 15, 15A and col. 22 lines 43-59. Further, the Examiner notes that the features upon which applicant relies (i.e., leading edge gradient being too steep or indeed based on any other characteristic of a leading edge gradient) are not recited in the rejected claim(s). Furthermore, the Examiner has not proposed to substitute the peak detection of Diener for test 1575 of fig. 15 of Goren.

E. Regarding of Claim 5.

Appellant argues that not only does Goren modified by Diener uses a peak detection criteria rather than the gradient slope criteria called for by claim 5, but Goren as modified by Diener does not select between leading edge processing and correlation processing. Instead, as previously discussed, Goren as modified selects between performing leading edge detection on the line of sight signal peak or a merged line of sight and multi-path signal peak.

The Examiner submits that Goren discloses selecting between correlation processing and leading edge processing **(selecting between correlation processing (i.e. channel estimation using correlation signal $C(\tau)$) 1590 and leading edge detection 1585 in fig. 15, 15A and col. 22 lines 43-59)**. Further, Diener discloses a detector 520 and a pulse detector coupled to the peak detector that detects from the peak information pulses **(i.e., gradient)** that meet the configured criteria **(i.e. gradient threshold)** in col. 8 lines 41-46. Therefore, by modify the method of Goren to include the step of detecting the peak information pulses that meet the configured criteria, it would provide accuracy for identifying location using leading edge operation.

F. Regarding of Claim 14.

Appellant argues that claim 14 calls for applying at least one test to select a processing operation and then measuring a gradient using the formula i=Cdv/Dt.

The Examiner submits that Goren discloses applying a test on received signals to determine whether a signal level of the received signal is above a threshold **(Goren determining if the correlation function quality is sufficient in step 1575, fig. 15)** and selecting between correlation processing and leading edge processing **(selecting between correlation processing (i.e. channel estimation using correlation signal $C(\tau)$) 1590 and leading edge detection 1585 in fig. 15, 15A and col. 22 lines 43-59)**. Furthermore, the Examiner submits that the formula i=Cdv/Dt is a well known formula and evidence could be found in (12) Appendix Section.

G. Regarding of Claim 17.

Appellant argues that claim 17 is clearly directed to a computer-readable medium and not to a carrier or a signal.

The Examiner submits that since the after final argument filed 4/29/2009 clearly limit the computer-readable medium to be an internal memory of a digital computer in the specification and 35 U.S.C. 101 section, the 35 U.S.C. 101 rejection to claim 17 has been withdrawn.

Appellant further argues that Goren does not teach applying a test to select among two selectable processing operations: a correlation processing operation and a leading edge processing operation.

The Examiner submits that Goren discloses applying a test on received signals to determine whether a signal level of the received signal is above a

threshold **(Goren determining if the correlation function quality is sufficient in step 1575, fig. 15)** and selecting between correlation processing and leading edge processing **(selecting between correlation processing (i.e. channel estimation using correlation signal $C(\tau)$) 1590 and leading edge detection 1585 in fig. 15, 15A and col. 22 lines 43-59)**.

H. Regarding of Claim 20-22 and 26.

Appellant argues that claim 20 calls for a testing means for testing the received radio frequency signals which have not yet been subject to a correlation processing operation. If the Examiner is interpreting step 1570 of Goren as a correlation processing operation, then testing step 1575 is performed subsequently on a signal that has been correlation processed.

The Examiner submits that the Examiner is interpreting channel estimation using correlation signal $C(\tau)$ 1590 as the correlation processing operation. Therefore, the received signal has not been correlation processed before the testing step 1575.

I. Regarding of Claim 23.

Appellant argues that neither Diener nor Goren teaches or suggests a leading edge gradient based test.

The Examiner submits that Goren discloses a first test of whether the correlation function quality is sufficient in step 1575, fig. 15, and further discloses

a second test of determining whether the peak 1502 is able to be distinguished from peak 1504 or overlap with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 43-59. Diener discloses a detector 520 and a pulse detector coupled to the peak detector that detects from the peak information pulses **(i.e., gradient)** that meet the configured criteria **(i.e. gradient threshold)** in col. 8 lines 41-46. Therefore, by modify the method of Goren to include the step of detecting the peak information pulses that meet the configured criteria, it would provide accuracy for identifying location using leading edge operation. Further, Diener discloses knowing the type of the signal to be located after detecting from the peak information pulses that meet the configured criteria, can be useful in deciding on what type of signaling process to use in order to obtain TDOA measurements to locate the source of the signal in col. 8 lines 41-55; therefore, the information is useful in deciding whether to use correlation processing (i.e. channel estimation using correlation signal $C(\tau)$) 1590 or leading edge detection 1585 as disclosed by Goren in fig. 15, 15A and col. 22 lines 43-59.

J. Regarding of Claim 24.

Appellant argues that neither Goren at column 22, lines 43-59 nor Diener at column 8, lines 41-46 suggest applying a second test, much less a leading edge gradient based test, much less than a signal originally selected for the leading edge processing operation should be subject instead to the correlation processing operation based on the leading edge gradient test.

The Examiner submits that Goren discloses a first test of whether the correlation function quality is sufficient in step 1575, fig. 15, and further discloses a second test of determining whether the peak 1502 is able to be distinguished from peak 1504 or overlap with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 43-59. Diener discloses a detector 520 and a pulse detector coupled to the peak detector that detects from the peak information pulses **(i.e., gradient)** that meet the configured criteria **(i.e. gradient threshold)** in col. 8 lines 41-46. Therefore, by modify the method of Goren to include the step of detecting the peak information pulses that meet the configured criteria, it would provide accuracy for identifying location using leading edge operation. Further, Diener discloses knowing the type of the signal to be located after detecting from the peak information pulses that meet the configured criteria, can be useful in deciding on what type of signaling process to use in order to obtain TDOA measurements to locate the source of the signal in col. 8 lines 41-55; therefore, the information is useful in deciding whether to use correlation processing (i.e. channel estimation using correlation signal $C(\tau)$) 1590 or leading edge detection 1585 as disclosed by Goren in fig. 15, 15A and col. 22 lines 43-59.

K. Regarding of Claim 27.

Appellant argues that the final rejection nowhere states either the statutory basis on which claim is rejected nor over which reference(s) it is rejected. For purposes of these arguments, it will be assumed that the applicant should explain

why claim 27 distinguishes patentably in the sense of 35 U.S.C. 103 Over Goren as modified by Diener.

The Examiner submits that claim 27 is rejected in pages 12 and 13 of the final office action mailed on 3/4/09, however, there was a typographical error of missing number “27” in the statutory basis statement of section 8 of the final rejection.

Appellant further argues that Goren neither discloses nor teaches either applying a signal level test or selecting a correlation processing operation and Diener makes no suggestion of a correlation processing operation.

The Examiner submits that the Goren discloses applying a test on received signals to determine whether a signal level of the received signal is above a threshold **(Goren determining if the correlation function quality is sufficient in step 1575, fig. 15)**; and selecting between correlation processing and leading edge processing **(selecting between correlation processing (i.e. channel estimation using correlation signal $C(\tau)$) 1590 and leading edge detection 1585 in fig. 15, 15A and col. 22 lines 43-59)**.

Appellant further argues that neither Goren nor Diener suggests a second test, much less applying the second test when the signal level is above a threshold value, much less applying a leading edge gradient test.

The Examiner submits that Goren discloses a first test of whether the correlation function quality is sufficient in step 1575, fig. 15, and further discloses a second test of determining whether the peak 1502 is able to be distinguished

from peak 1504 or overlap with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 43-59. Diener discloses a detector 520 and a pulse detector coupled to the peak detector that detects from the peak information pulses **(i.e., gradient)** that meet the configured criteria **(i.e. gradient threshold)** in col. 8 lines 41-46. Therefore, by modify the method of Goren to include the step of detecting the peak information pulses that meet the configured criteria, it would provide accuracy for identifying location using leading edge operation.

Appellant further argues that neither Goren nor Diener supply any rationale or teaching as to why having the leading edge gradient value below the gradient threshold value should be a basis for selecting a leading edge processing operation.

The Examiner submits that Diener discloses knowing the type of the signal to be located after detecting from the peak information pulses that meet the configured criteria, can be useful in deciding on what type of signaling process to use in order to obtain TDOA measurements to locate the source of the signal in col. 8 lines 41-55; therefore, the information is useful in deciding whether to use correlation processing (i.e. channel estimation using correlation signal $C(\tau)$) 1590 or leading edge detection 1585 as disclosed by Goren in fig. 15, 15A and col. 22 lines 43-59.

Appellant further argues that neither Goren nor Diener suggest selecting a correlation processing operation, much less selecting a correlation processing operation in response to a leading edge gradient test, much less than the

correlation processing operation should be selected in response to the leading edge gradient value being above the gradient threshold value; and neither Goren nor Diener supply any rationale or teaching as to why having the leading edge gradient value below the gradient threshold value should be a basis for selecting the leading edge processing operation.

The Examiner submits that Goren discloses a first test of whether the correlation function quality is sufficient in step 1575, fig. 15, and further discloses a second test of determining whether the peak 1502 is able to be distinguished from peak 1504 or overlap with multipath peak 1504 as disclosed in fig. 15A and col. 22 lines 43-59. Diener discloses a detector 520 and a pulse detector coupled to the peak detector that detects from the peak information pulses **(i.e., gradient)** that meet the configured criteria **(i.e. gradient threshold)** in col. 8 lines 41-46. Therefore, by modify the method of Goren to include the step of detecting the peak information pulses that meet the configured criteria, it would provide accuracy for identifying location using leading edge operation. Further, Diener discloses knowing the type of the signal to be located after detecting from the peak information pulses that meet the configured criteria, can be useful in deciding on what type of signaling process to use in order to obtain TDOA measurements to locate the source of the signal in col. 8 lines 41-55; therefore, the information is useful in deciding whether to use correlation processing (i.e. channel estimation using correlation signal $C(\tau)$) 1590 or leading edge detection 1585 as disclosed by Goren in fig. 15, 15A and col. 22 lines 43-59.

<u>Appendix</u>

Habitz (U.S. PATENT NO. 7,089,129) discloses calculating voltage gradient in col. 4 and formula i=Cdv/Dt in TABLE I.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Ping Y Hsieh/

Examiner, Art Unit 2618

Conferees:

/Nay A. Maung/

Supervisory Patent Examiner, Art Unit 2618

/Duc Nguyen/

Supervisory Patent Examiner, Art Unit 2618